



Patent
Attorney's Docket No. RIC-96-153

#28
P. D. [signature]
06/09/02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

Viet LE et al.

Application No.: 08/923,461

Filed: September 4, 1997

For: METHOD AND SYSTEM FOR
MODULAR MULTIPLEXING
AND AMPLIFICATION IN A
MULTI-CHANNEL PLAN

)
)
) Group Art Unit: 2633

)
) Examiner: M. Sedighian
)
)
)
)
)
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RECEIVED

MAY 09 2002

Technology Center 2600

TRANSMITTAL LETTER FOR DECLARATION UNDER 37 C.F.R. § 1.131

Commissioner of Patent and Trademarks
Washington, D.C. 20231

Sir:

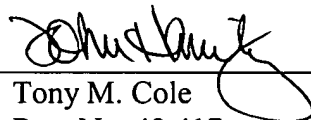
Enclosed are two Declarations Under 37 C.F.R. § 1.131 and a List of Exhibits A through F for the above-identified patent application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17, 1.20(d) and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 50-1070.

Respectfully submitted,

HARRITY & SNYDER, L.L.P.

By:  Reg. No. 43,367
for Tony M. Cole
Reg. No. 43,417

11240 Waples Mill Road
Suite 300
Fairfax, Virginia 22030
(571) 432-0800

Date: May 7, 2002



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CHANNEL PLAN)

DECLARATION UNDER 37 C.F.R. § 1.131

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Technology Center 2600

Commissioner for Patents
Washington, D.C. 20231

Sir:

We, Viet Le and Xiaoping Mao, inventors of the subject matter claimed in the above-referenced application, hereby declare that:

1. Two Invention Disclosures, describing the claimed subject matter, were signed by us, and witnessed, prior to September 2, 1997 (See Exhibits A & B).

2. A first draft of a United States patent application for the claimed subject matter was completed prior to September 2, 1997 by our attorney. A letter, Exhibit C, accompanying and referencing the completed first draft was written by our attorney and sent to MCI Telecommunications Corp.

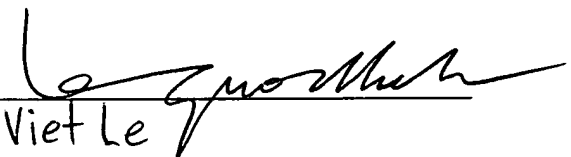
3. In accordance with our comments on the first draft, a revised second draft of a United States patent application for the claimed subject matter was completed prior to September 2, 1997 by our attorney and mailed to MCI Telecommunications Corp. A letter written by our attorney and dated prior to September 2, 1997 (Exhibit D) accompanied and referenced the revised second draft Application.

4. A third and final draft of a United States patent application for the claimed subject matter was completed prior to September 2, 1997 by our attorney. A letter, Exhibit E, accompanying and referencing the completed final draft was written by our attorney and sent to MCI Telecommunications Corp. The letter acknowledges that the final draft has been revised in accordance with our comments to the second draft.

5. On September 4, 1997, the above-referenced patent application was filed in the United States Patent and Trademark Office. A letter (Exhibit F), accompanying and referencing a copy of the filed patent application, was written by our attorney and sent to MCI Communications Corp. on September 4, 1997.

6. We further declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and, further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements made jeopardize the validity of the application or any patent issuing therefrom.

Date: 04/27/2002

Signature: 
Viet Le

Date: _____

Signature: _____



Patent
Attorney's Docket No. RIC-96-153

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)
)
Viet LE *et al.*) Group Art Unit: 2633
)
Application No.: 08/923,461) Examiner: M. Sedighian
)
Filed: September 4, 1997)
)
For: METHOD AND SYSTEM FOR)
MODULAR MULTIPLEXING AND)
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CHANNEL PLAN)

DECLARATION UNDER 37 C.F.R. § 1.131

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Commissioner for Patents
Washington, D.C. 20231

MAY 09 2002

Technology Center 2600

Sir:

We, Viet Le and Xiaoping Mao, inventors of the subject matter claimed in the above-referenced application, hereby declare that:

1. Two Invention Disclosures, describing the claimed subject matter, were signed by us, and witnessed, prior to September 2, 1997 (See Exhibits A & B).

2. A first draft of a United States patent application for the claimed subject matter was completed prior to September 2, 1997 by our attorney. A letter, Exhibit C, accompanying and referencing the completed first draft was written by our attorney and sent to MCI Telecommunications Corp.

3. In accordance with our comments on the first draft, a revised second draft of a United States patent application for the claimed subject matter was completed prior to September 2, 1997 by our attorney and mailed to MCI Telecommunications Corp. A letter written by our attorney and dated prior to September 2, 1997 (Exhibit D) accompanied and referenced the revised second draft Application.

4. A third and final draft of a United States patent application for the claimed subject matter was completed prior to September 2, 1997 by our attorney. A letter, Exhibit E, accompanying and referencing the completed final draft was written by our attorney and sent to MCI Telecommunications Corp. The letter acknowledges that the final draft has been revised in accordance with our comments to the second draft.

5. On September 4, 1997, the above-referenced patent application was filed in the United States Patent and Trademark Office. A letter (Exhibit F), accompanying and referencing a copy of the filed patent application, was written by our attorney and sent to MCI Communications Corp. on September 4, 1997.

6. We further declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and, further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements made jeopardize the validity of the application or any patent issuing therefrom.

Date: 4/26/2002

Signature: Xiaoping Mao

Date: _____

Signature: _____

LIST OF EXHIBITS

- A: Copy of a first Invention Disclosure, describing a portion of the claimed subject matter, signed and witnessed prior to September 2, 1997.
- B: Copy of a second Invention Disclosure, describing the remaining claimed subject matter not described by Exhibit A, signed and witnessed prior to September 2, 1997.
- C: Copy of a letter sent to MCI Telecommunications Corp., dated prior to September 2, 1997, which accompanied and referenced a first draft application.
- D: Copy of a letter sent to MCI Telecommunications Corp., dated prior to September 2, 1997, which accompanied and referenced a second draft application.
- E: Copy of a letter sent to MCI Telecommunications Corp., dated prior to September 2, 1997, which accompanied and referenced a final draft application.
- F: Copy of a letter sent to MCI Communications Corp., bearing the date of September 4, 1997, which accompanied and referenced a copy of the patent application that was filed on the same date.

MCI

Invention Disclosure Form

EXHIBIT A

Item 1. Provide a short, descriptive title for the invention:

Adaptable Optical Line Amplifier for Four-Window Channel Plan

Item 2. When and under what circumstances was the invention first conceived (if you have any written evidence of this date, include copies):

Item 3a. List all contributors to this conception of the invention and indicate the contributor's company if not an MCI employee (also identify one person as a primary contact with an "X" next to the name):

Printed Name: Viet La

Phone#: 972-918-6993

Dept/Loc: 1167/107

E-Mail ID: 285-1809

Printed Name: Charlie Mao

Phone#: 972-918-6938

Dept/Loc: 1167/107

E-Mail ID: 200-5294

Item 3b. Provide the management chain (through VP) of the originating organization for the invention:

Sr. Manager: Dennis Day
 Director: Joe Cook
 Vice President: Jack Walters

Item 4a. Has the invention been disclosed, or is it likely to be disclosed in the near future, outside of MCI, such as to a vendor, at a technical conference or trade show, or in a printed publication:

Yes ☒ No ☐ Don't know/Other _____

Item 4b. If the answer to Item 4a is Yes or Don't know/Other, was the disclosed information marked proprietary, confidential, etc.

Yes ☒ No ☐ Don't know/Other _____

Item 4c. If the answer to Item 4b is No or Don't know/Other, give the date and a description of each unprotected or possibly unprotected disclosure, up to the first three:

1. _____

2. _____

3. _____

Inventor Signature(s)	Date	Read, understood and witnessed	Date
<i>[Signature]</i> HET LE		1. <i>[Signature]</i> R.	
<i>[Signature]</i>		2.	

MCI Confidential

Item 5. Identify each service, network or product which utilizes or may utilize the invention:

Network Provisioning
Transmission
Network Architecture/Infrastructure

Item 6a. Have there been any attempts to demonstrate, publicly use, market or sell the service or product:

Yes _____ No ☒ Don't know/Other _____

Item 6b. If the answer to Item 6a is Yes, give the date and a description of each such attempt:

Item 7. Identify and attach copies of any prior references which may be relevant to the invention (products, brochures, patents, publications, etc.), but do not perform a search for references in order to complete this form:

Item 8. Describe the invention using the following format. Mark each page "MCI Confidential."

PROBLEM: State the problem which motivated or required a solution provided by the invention.

Today's network uses Optical Line Amplifiers on the same fiber with bi-directional capabilities, as illustrated in Figure 1.

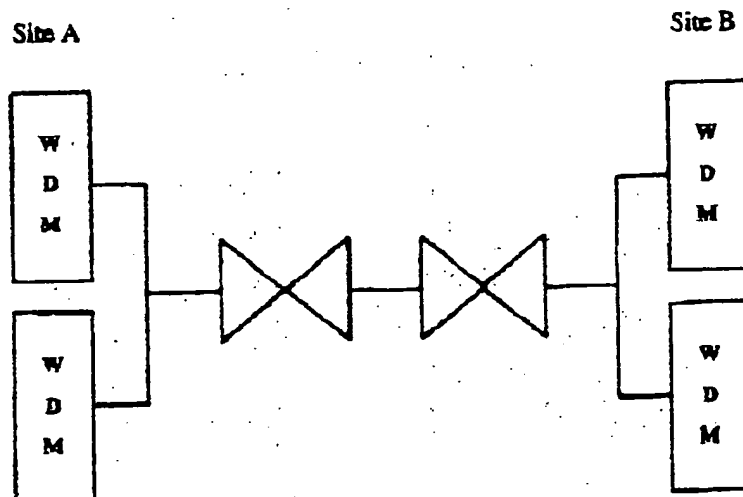


Figure 1: Existing WDM with Optical Line Amplifiers

However, by migrating this network to use the CWDM system, described in RIC-86-151, you eliminate the duplications at the transmission side. Figure 2 represents 2x2 system, CWDM with optical line amplifiers.

Inventor Signature(s)	Date	Read, understood and witnessed	Date
<i>[Signature]</i> VIET LE		1. <i>[Signature]</i>	
<i>[Signature]</i> CHUO MAR		2. <i>[Signature]</i>	

MCI Confidential

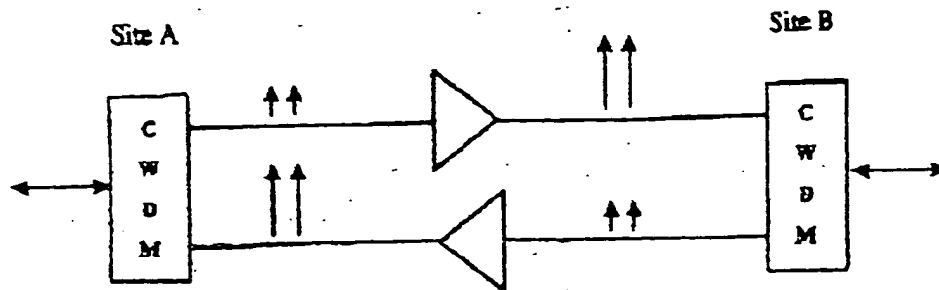


Figure 2: 2x2 Optical Line Amplifiers with CWDM system

However, there still remains one problem; to use 16 channel WDM a 16 channel amplifier is required. This problem leads to other disadvantages, such as, implementation cost, fiber Non-linear thresholds, optimization complications, and limitations on total power (maximum power per wavelength).

SOLUTION: Describe how the invention qualifies as a solution to the problem.

This invention presents a solution to the above problem, by using modular optical line amplifiers along with CWDM system. Figure 3 illustrates this invention.

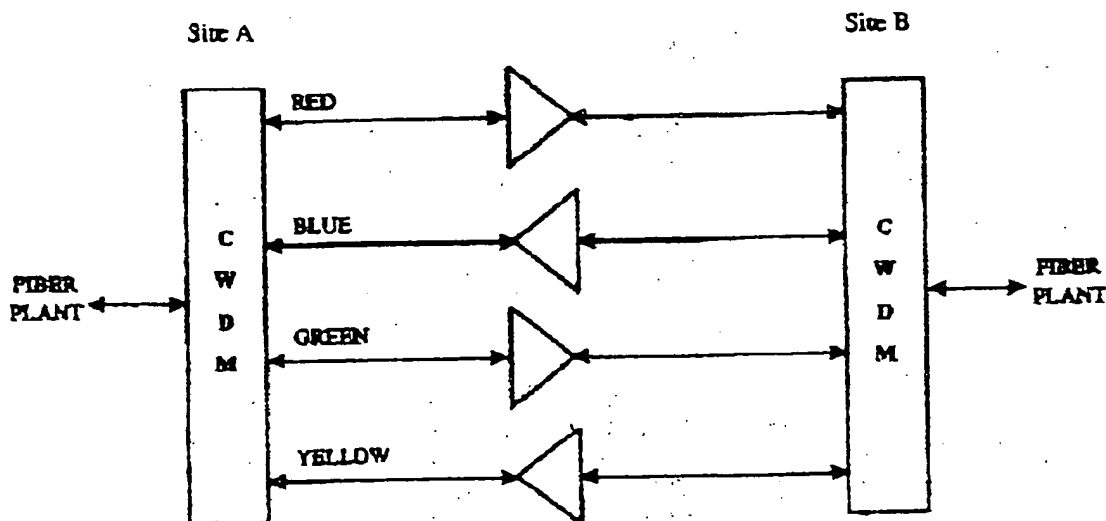


Figure 3: Modular Optical Line Amplifiers with CWDM system

Each amplifier will optimize its own window. Transmission may be uni-directional (16 channel) or bi-directional (8 channel each direction). Figure 4 represents the amplifier.

Inventor Signature(s)	Date	Read, understood and witnessed	Date
<i>Carroll</i> VIETLE		1. <i>HH</i>	
<i>Chen</i> MANS		2. <i>[Signature]</i>	

MCI Confidential

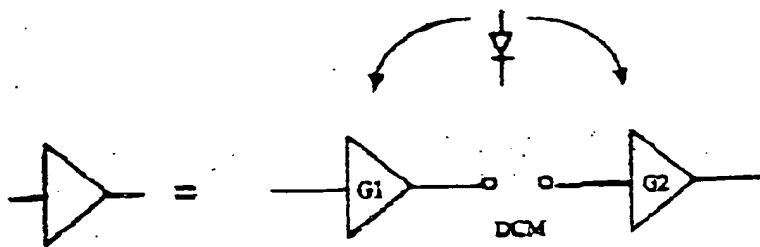


Figure 4: Modular Optical Line Amplifier Design

This invention allows implementation in at different segments, as demanded by traffic, e.g., implement the Red window, and as traffic increases, add the Blue window.

DIFFERENTIATION: Describe how others have tried to solve the same or similar types of problems, with reference to any prior references you have attached, and how the solution of the present invention differs.

This invention eliminates Four-Wave Mixing, and minimizes transient effects, by reducing pump power, and increasing reliability.

IMPORTANCE: State why this solution (the invention) should be important to MCI.

This invention provides the following advantages for MCI:

- Reduce the pump requirements
- Reduce gain competitions
- Increase throughput per bandwidth
- Ease of dispersion management
- Ease of equalization implementation
- Ease of system implementation
- Flexibility

DRAWING: Provide at least one illustrative drawing, schematic, block diagram or flow chart (rough, hand drawn illustrations are OK).

KEYWORDS: List some related key words to facilitate searching for this disclosure at a later time.

WDM, modular WDM, four-window channel plan, Optical Line Amplifier

Inventor Signature(s)	Date	Read, understood and witnessed	Date
<i>[Signature]</i> VIET LE		1. <i>[Signature]</i>	
<i>[Signature]</i>		2. <i>[Signature]</i>	

MCI Confidential

MCI Invention Disclosure Form

EXHIBIT B

- Item 1. Provide a short, descriptive title for the invention:
Coarse WDM (CWDM)
- Item 2. When and under what circumstances was the invention first conceived (if you have any written evidence of this date, include copies):
- Item 3a. List all contributors to this conception of the invention and indicate the contributor's company if not an MCI employee (also identify one person as a primary contact with an "X" next to the name):

Printed Name: Viet Le

Phone#: 972-818-6993 Dept/Loc: 1157/107 E-Mail ID: 286-1809

Printed Name: Charlie Mao

Phone#: 972-818-6939 Dept/Loc: 1157/107 E-Mail ID: 200-8394

- Item 3b. Provide the management chain (through VP) of the originating organization for the invention:

St. Manager: Dennis Dey
Director: Joe Cook
Vice President: Jack Walters

- Item 4a. Has the invention been disclosed, or is it likely to be disclosed in the near future, outside of MCI, such as to a vendor, at a technical conference or trade show, or in a printed publication:

Yes ☐ No ☒ Don't know/Other _____

- Item 4b. If the answer to Item 4a is Yes or Don't know/Other, was the disclosed information marked proprietary, confidential, etc.

Yes ☒ No ☐ Don't know/Other _____

- Item 4c. If the answer to Item 4b is No or Don't know/Other, give the date and a description of each unprotected or possibly unprotected disclosure, up to the first three:

1. _____
2. _____
3. _____

Inventor Signature(s)	Date	Read, understood and witnessed	Date
<i>Coarse WDM VIET LE</i>		1. <i>[Signature]</i>	
<i>Charlie Mao</i>		2. _____	

Item 6. Identify each service, network or product which utilizes or may utilize the invention:

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Transmission
Network Architecture/Infrastructure

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Yes _____ No ☒ Don't know/Other _____

Item 6b. If the answer to Item 6a is Yes, give the date and a description of each such attempt:

Item 7. Identify and attach copies of any prior references which may be relevant to the invention (products, brochures, patents, publications, etc.); but do not perform a search for references in order to complete this form:

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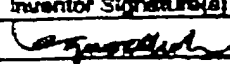
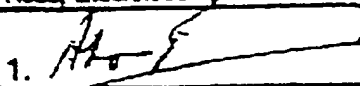

PROBLEM: State the problem which motivated or required a solution provided by the invention.

Wavelength Division Multiplexing (WDM) is used in an optical communication network, to send multiple optical carriers along the fiber, at different wavelength. The existing WDM Channel Plan consists of 2, 4, 8, and 16 wavelength channel plans, within the erbium band, 1530 to 1560 nm. Therefore, for maximum capacity, it is desirable to use the 16-Wavelength channel plan. However, the problems associated with crowding the channel plan are, amplification, equalization, non-linear interference, receiver selectivity, and transmitter stability.

SOLUTION: Describe how the invention qualifies as a solution to the problem.

This invention presents a solution to the above problem, by introducing a new WDM communications system that can bear several optical carriers without introducing significant signal degradation or incurring excessive operating costs. It introduces a new 16-Wavelength channel plan division, and WDM system.

This invention divides the 16-Wavelength channel plan into 4 windows: Red (1530 to 1535 nm), Blue (1536 to 1541 nm), Green (1542 to 1547 nm), and Yellow (1548 to 1553 nm), i.e., there are 4-windows with 4 wavelength in each. The new WDM system is a modular system, allowing implementation based on the wavelength divisions. Figure 1 illustrates the CWDM system (modular system).

Inventor Signature(s)	Date	Read, understood and witnessed	Date
 VIET LE		1. 	
		2.	

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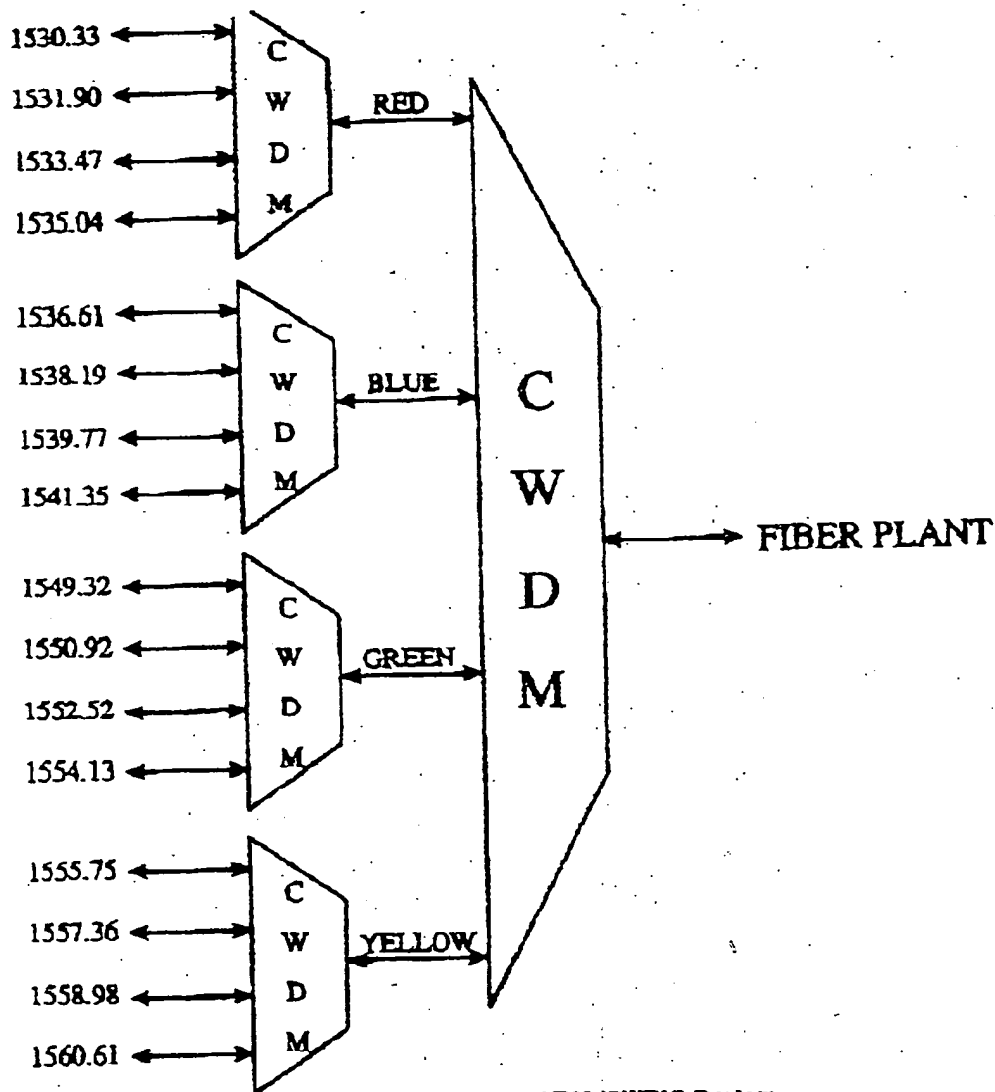


Figure 1: Coarse WDM (CWDM) System

As seen from the above figure, the first system breaks the 16 wavelengths into the 4-window groups. Then, the second CWDM breaks the window down to individual wavelengths. This is a modular system, since it allows scalable implementation, e.g., first implement the Red window, implement additional components as future demands become apparent. It is important to note that each window has bi-directional transmission capabilities.

DIFFERENTIATION: Describe how others have tried to solve the same or similar types of problems, with reference to any prior references you have attached, and how the solution of the present invention differs.

Inventor Signature(s)	Date	Read, understood and witnessed	Date
<i>Laquisha VIERLE</i>		1. <i>[Signature]</i>	
<i>Chad [Signature]</i>		2. <i>[Signature]</i>	

N/A

IMPORTANCE: State why this solution (the invention) should be important to MCI.

This invention provides the following advantages for MCI:

- **Cost Reduction**—No need to implement the system all at once, and with migration changes, no need to change the WDM system.
- **Use of Existing Equipment**—MCI will use existing lasers, even with migration to new channel plan.
- **Modular Design and Implementation**—MCI will be able to upgrade from 4-channel WDM up to 16 channel without purchasing, planning, and implementing all the systems at once.
- **Relaxed Requirements**—Fiber and WDM device requirements will be easier, due to easier gain/qualization management of small groups of wavelengths, and carrier separation.

DRAWING:

Provide at least one illustrative drawing, schematic, block diagram or flow chart (rough, hand drawn illustrations are OK).

KEYWORDS:

List some related key words to facilitate searching for this disclosure at a later time.

WDM, modular WDM, four-window channel plan

Inventor Signature(s)	Date	Read, understood and witnessed	Date
<i>[Signature]</i>		1. <i>[Signature]</i>	
<i>[Signature]</i>		2.	

MCI Confidential

WDM Channel Plan

700 944

Frequency THz	Wavelength nm	2-Wavelength NDSF Plan	4-Wavelength NDSF Plan	8-Wavelength NDSF Plan	16-Wavelength NDSF Plan
196.300	1527.22				
196.200	1527.89				
196.100	1528.77				
196.000	1529.55				
195.900	1530.33			1530.33 ± 0.25	
195.800	1531.12				
195.700	1531.90				
195.600	1532.88			1533.47 ± 1.3	
195.500	1533.47				
195.400	1534.25				
195.300	1535.04				
195.200	1535.82				
195.100	1536.61				
195.000	1537.40			1537.19 ± 0.25	
194.900	1538.19				
194.800	1538.98				
194.700	1539.77				
194.600	1540.58			1541.34 ± 0.25	
194.500	1541.36				
194.400	1542.14				
194.300	1542.94				1542.74 ± 0.3
194.200	1543.73				
194.100	1544.53				
194.000	1545.32				
193.900	1546.12				
193.800	1546.92				
193.700	1547.72				
193.600	1548.51			1548.37 ± 0.25	
193.500	1549.32				
193.400	1550.12				
193.300	1550.92				
193.200	1551.72			1552.54 ± 0.25	
193.100	1552.52				
193.000	1553.33				
192.900	1554.13				
192.800	1554.94				
192.700	1555.75				
192.600	1556.55			1557.36 ± 1.3	
192.500	1557.36				
192.400	1558.17				
192.300	1558.98				
192.200	1559.79				
192.100	1560.61				
192.000	1561.42				
191.900	1562.23				

Bi-directional Transition Bandwidth

Bi-directional

Red

Blue

Green

Yellow

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EXHIBIT C

STERNE, KESHLER, GOLDSTEIN & FOX P.L.L.C.

ATTORNEYS AT LAW

SUITE 800

1100 NEW YORK AVENUE, N.W.
WASHINGTON, D.C. 20005-3934

(202) 371-6000

FACSIMILE: (202) 371-2540

ROBERT GREENE STERN
EDWARD J. KESHLER
JONAS A. GOLDBERG
SAMUEL L. FOX
DAVID S.B. CORNFIELD
ROBERT W. CLEGG
TRACY-GENE G. DUBOW
MICHAEL A. CAMERON
MICHAEL B. RAY
ROBERT E. SCHWAB
CARL H. STEFFE
ANDREA G. REINER

DANIEL M. YAKHWEZ
WILLIAM C. ALLISON V
MICHAEL O. LEE
G. KEVIN TOWNSEND
JAMES M. CONYER
ANDRE BROWN
LINDA K. ALCOCK
RAE E. FUCHSBERG
ROBERT C. MULLIN
STEVEN R. LUDWIG
MICHAEL V. WEISSBERG
LOUI L. KERSBER

JUDITH U. KIM
KEITH KING
TIMOTHY J. SNEA, JR.
DONALD R. MCPHAIL
PATRICK E. BARKLEY
MARSH R. TRAPPETA
JOSEPH W. WENNECHER
BARBARA A. PATTIS
MICHAEL A. RABINOWITZ
STEPHEN C. WHITEHEAD
NIEL B. BRITLEY

DONALD J. FEATHERSTONE
LAWRENCE B. DUGANET
KAREN A. MARLOWITZ
KIMBERLY M. TOWNEY

"ALL OFFICES TRAVEL D.C."
"REGISTERED PATENT AGENTS"

WRITER'S DIRECT NUMBER:

(202) 371-2667

INTERNET ADDRESS:

mikem@skgf.com

Via Federal Express

MCI Privileged and Confidential

Mr. Viet Le
Mr. Charlie Mao
MCI Telecommunications Corporation
2400 North Glenville Drive
Dept. 1167/107
Richardson, TX 75082

COPY

Re: Draft U.S. Utility Patent Application
For: Method and System For Modular Optical Line Amplification
Inventors: Viet Le et al.
MCI Ref: RIC-96-153
SKGF Ref: 1575.2550000

Dear Gentlemen:

Enclosed please find a first draft of the above-captioned patent application. Please review this draft application and make any necessary changes. Do not hesitate to comment or question anything in the draft application or the drawings. It is extremely important that any technical issues with respect to the specification be identified so that they may be addressed before filing the application at the U.S. Patent and Trademark Office (USPTO). Please be very critical in your review as we want to accurately and completely capture all facets of the invention.

Pursuant to standard MCI policy, we request that you complete your review and provide us with your comments by two weeks from the date of this letter. Please contact us immediately if it is not possible to meet this goal. Upon receiving your comments, we will send to you a final

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STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Mr. Viet Le
Mr. Charlie Mao

Page 2

application via MCI patent engineer, Ms. Atousa Raissyan. Of course, the final application is subject to any additional comments from you.

For your information, we have enclosed a memo with an explanation of the parts of the application.

We still need further inventor information for Mr. Viet Le. For your convenience, we have included an Inventor Information Table. Please return this information at your earliest convenience to us via email or facsimile. This information is needed in order to prepare the Declaration and Assignment forms which you will execute before filing the application in the U.S. Patent and Trademark Office.

USPTO Rules require that we disclose to the Examiner all information that we know of that is material to the patentability of the invention. This is called the "Duty of Disclosure." We have enclosed a memo with an explanation of the Duty of Disclosure. The Duty of Disclosure remains in effect until the issuance of a patent. Failure to disclose all material information to the Examiner may cause a court to hold the patent invalid. We therefore request that you and anyone else substantively involved in the patent application process forward to us any information known to be material, so that we can submit it to the Examiner. The Rules of Practice encourage all Information Disclosure Statements (IDS) to be filed within three months of the filing of the application. In any event, it is important that an IDS be filed before the Examiner first acts on the case, if there is information to submit.

If you have any questions or comments concerning this application draft, please do not hesitate to call. We look forward to receiving your comments.

Very truly yours,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



Michael V. Messinger

MVM:jmb
Enclosures

cc: Patent Engineer (w/enclosures)
Ms. Andrea Carr (w/o enclosures)

PAUSERSUBALL\1575235-15TD.LTR

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EXHIBIT D

STERNE, KESLER, GOLDSTEIN & FOX P.L.L.C.

ATTORNEYS AT LAW

SUITE 600

1100 NEW YORK AVENUE, N.W.
WASHINGTON, D.C. 20005-3901

TELEPHONE: (202) 371-6600

FACSIMILE: (202) 371-2540

ROBERT GRETHER STERNE
EDWARD J. KESSLER
JOSEPH A. GOLDSTEIN
SAMUEL L. FOX
DAVID K.S. CORNWELL
ROBERT W. EDWARDS
THOMAS GENE G. GURDIN
MICHAEL A. OMBALA
MICHAEL B. RAY
ROBERT E. SCHWAB
ERIC R. STEFFE
ANDREA G. REYNOLDS

WILLIAM C. ALLISON V
MICHAEL G. LEE
O. KEVIN TOMLINSON
JOHN M. CONERT
ANNIE BROWN
LINDA E. ALCOCK
RAE E. FLEISHER
ROBERT C. MULLOOLIO
STEVEN R. LUDWIG
MICHAEL V. NEBSINGER
LOUI L. KEMMER
JUDITH U. KEMP

KETH KING
TIMOTHY J. SHEA, JR.
DONALD R. MCPHAIL
PATRICK E. GARDNETT
JEFFREY W. ROBINCKE
BARBARA A. PARNIS
MICHAEL A. RANHAM
STEPHEN G. WHITESIDE
ROD E. WHITLEY
RICK A. TUCKER
JEFFREY T. MELVY

GERALD J. FEATHERSTONE
LAWRENCE R. BUGANSKY
KAREN R. MARSHALL
KAROLAN R. TROTT

*BAR OTHER THAN D.C.
*REGISTERED PATENT ATTORNEY

WIRELESS DIRECT NUMBER

(202) 371-2667

INTERNET ADDRESS:

mikem@skgf.com

Via Federal Express

Mr. Frank A. McKiel
Patent Engineer
MCI Telecommunications Corporation
2400 North Glenview Drive
Richardson, TX 75082

MCI CONFIDENTIAL

Re: Final U.S. Patent Application
For: Method and System for Modular Multiplexing and
Amplification in a Multi-Channel Plan
Inventors: Viet Le et al.
MCI Ref.: RIC-96-153
Our Ref: 1575.2550000

COPY

Dear Frank:

Enclosed is a final patent application for the above-referenced invention. Also enclosed are a completed Declaration and Power of Attorney form, and a completed Assignment form. As agreed upon by the inventors and Ms. Tammy Williams, this final application contains the combined subject matter of two cases (MCI Ref. Nos. RIC-96-151 and RIC-96-153).

The application has been revised in accordance with your comments and the comments of the inventors. Thus, the application should now be in a condition for filing with the U.S. Patent and Trademark Office (USPTO).

We request that you and the inventor(s) review the enclosed application. If the application meets with the approval of all of you, then we request that you have the inventor(s) review and execute the Declaration and Power of Attorney and the Assignment. Please have the inventor(s) enter the respective dates that they each executed the Declaration and Power of Attorney into the appropriate spaces of the Assignment.

BEST AVAILABLE COPY

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Mr. Frank A. McKiel

Page 2

Then, please return the application and the executed formal documents to us so that we may file them with the USPTO.

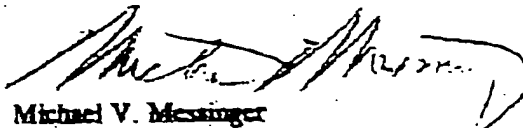
Our goal for filing this application is Thus, we request that these papers be sent to us for filing with the USPTO as soon as possible.

USPTO Rules require that we disclose to the Examiner all information that we know of that is material to the patentability of the invention. This is called the "Duty of Disclosure." The Duty of Disclosure remains in effect until the issuance of a patent. Failure to disclose all material information to the Examiner may cause a court to hold the patent invalid. We therefore request that you, the inventor(s), and anyone else substantively involved in the patent application process forward to us any information known to be material, so that we can submit it to the Examiner. The Rules of Practice encourage all Information Disclosure Statements (IDS) to be filed within three months of the filing of the application. In any event, it is important that an IDS be filed before the Examiner first acts on the case, if there is information to submit.

Please contact us if you have any questions or comments regarding the foregoing. Thank you.

Very truly yours,

STERNE, KESSLER, GOLDSTEIN & FOX


Michael V. Messinger

MVM/jmh
Enclosures

cc: Ms. Andrea Caro (w/o enclosures)

BEST AVAILABLE COPY

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

ATTORNEYS AT LAW

SUITE 600

1100 NEW YORK AVENUE, N.W.

WASHINGTON, D.C. 20005-3934

(202) 371-6800

FACSIMILE (202) 371-6840

EXHIBIT E

ROBERT GREGG STERNE
EDWARD J. KESSLER
JOSIE A. GOLDSTEIN
SAMUEL L. FOX
DAVID K.S. CORNWELL
ROBERT W. EDWARDS
THOMAS G. O. DUBOIS
MICHAEL A. CASSALA
MICHAEL B. RAY
ROBERT E. SOLOHL
ERIC K. STEFF
ANDREA G. REISTER

WILLIAM C. ALLISON V
MICHAEL D. LEE
G. KEVIN TOWNSEND
JOHN M. COVERT
ANNE BROWN
LISA E. ALCOCK
RAE C. FLESHNER
ROBERT C. MILLWARD
STEVEN A. LUDWIG
MICHAEL V. NICHOLSON
LENN L. KIRBY
JUDITH U. KIM

KOTH KIMO
TIMOTHY J. SKEA JR.
DONALD R. MCPHAIL
PATRICK C. GARRETT
JEFFREY W. REMICK
BARBARA A. PAVIS
MICHAEL A. RANMAN
STEVEN C. WYTERIDGE
ROD B. WHITLEY
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JEFFREY T. MELVEY

DONALD J. FEATHERSTONE
LAWRENCE B. SUGARST
BARON R. HARRISWICK
KIMBERLY M. TERRY

1849 OTHER THAN D.C.
REGISTERED PATENT AGENTS

WRITER'S DIRECT NUMBER

(202) 371-2667

INTERNET ADDRESS:

miken@skgf.com

Via Federal Express

Mr. Frank A. McKiel
Patent Engineer
MCI Telecommunications Corporation
2400 North Glenville Drive
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For: Method and System for Modular Multiplexing and
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Inventors: Viet Le et al.
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The application has been revised in accordance with your comments and the comments of the inventors. For your convenience, we enclose a red-lined version comparing this final application with the previous application sent to you on Thus, the application should now be in a condition for filing with the U.S. Patent and Trademark Office (USPTO).

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Mr. Frank A. McKiel

Page 2

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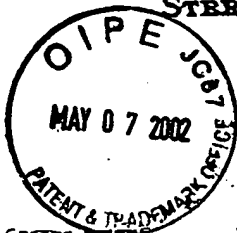
STERNE, KESSLER, GOLDSTEIN & FOX



Michael V. Messinger

MVM/jmh
Enclosures

cc: Michael E. Melton (w/o enclosures)



STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

ATTORNEYS AT LAW

SUITE 600

1100 NEW YORK AVENUE, N.W.

WASHINGTON, D.C. 20005-2834

(202) 371-2000

FACSIMILE (202) 371-2840

EXHIBIT F

ROBERT GREENE DUNN
EDWARD J. KESSLER
JAMES A. GOLDSTEIN
SAMUEL L. FOX
DAVID M.S. COMWELL
ROBERT W. ESWOND
THOMAS G. O. OVRUM
MICHAEL A. GINSBURG
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ROBERT E. SOROKL
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KAREN A. MARONICK
KIMBERLIN M. TERRY

***NOT OTHER THAN D.C.
***REGISTERED PATENT AGENTS

WRITER'S DIRECT NUMBER

(202) 371-2667

INTERNET ADDRESS:

mikem@skgf.com

September 4, 1997

Michael Melton, Esquire
Associate Technology Counsel
- Chief Patent Counsel
Technology Department
Law and Public Policy
MCI Communications Corporation
1133 19th Street, N.W.
Washington, D.C. 20036

Re: U.S. Non-Provisional Utility Patent Application
Appl. No.: to be assigned; Filed: September 4, 1997
For: Method and System for Modular Multiplexing and
Amplification in a Multi-Channel Plan
Inventors: Viet Le et al.
MCI Ref.: RIC-96-153
Our Ref: 1575.2550000

Dear Michael:

We are pleased to report the filing of this application, on September 4, 1997, along with the following documents:

U.S. Utility Patent Application entitled:

Method and System for Modular Multiplexing and Amplification
in a Multi-Channel Plan

Michael Melton, Esquire

September 4, 1997

Page 2

and naming as inventor:

Viet Le and Xiaoping Mao

the application consisting of:

1. A specification containing:
 - (a) 15 pages of description prior to the claims;
 - (b) 15 pages of claims (40 total claims and 5 independent claims); and
 - (c) a one (1) page abstract;
2. 4 sheets of informal drawings: (Figures 1-4); and
3. An original executed combined Declaration and Power of Attorney;
4. Form PTO-1082 (in duplicate);
5. Cover letter for Assignment (Form PTO-1595);
6. An original executed Assignment to MCI Communications Corporation;
7. Please charge to MCI Deposit Account No. 13-7491 for \$1,410.00 to cover:
\$770.00 Filing fee for patent application;
\$440.00 Claim fee for claims in excess of twenty;
\$160.00 Claim fee for independent claims in excess of three; and
\$40.00 Assignment recordation fee; and
8. Three (3) return post cards.

Copies of the documents as filed are enclosed for your records.

Please note that certain countries are not members of the Paris convention. Non-Paris convention countries do not recognize any United States filing as a priority document and the filing of the application in the United States may not provide protection in such countries. Therefore, if you have any interest in filing in any non-Paris convention country, please let us know prior to any disclosure (written, oral, or electronic) of the subject matter.

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Michael Melton, Esquire

September 4, 1997

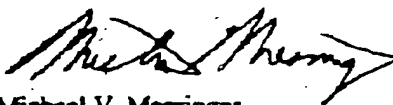
Page 3

Please be reminded that the duty of disclosure continues throughout the entire patent application process, and ends only with the actual issuance of a patent. Therefore, if you or anyone else substantively involved in the patent application process becomes aware of information that might be considered material, please forward it to us immediately. We can then submit it to the patent examiner for his consideration. The PTO rules of practice encourage an Information Disclosure Statement (IDS) to be filed within three months of the filing of the application. In any event, it is crucial that an IDS be filed before the examiner first acts on the case, if there is information to submit.

If you have any questions or comments, do not hesitate to contact us.

Very truly yours,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



Michael V. Messinger

MVM:jmh
Enclosures

CC: Carl Evans

MSKERSVHALL\1175255\PTM\JCL